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Camu-camu: a Promising Fruit from the Amazon Basin

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Abstract

The Amazon forest contains a great number of fruit bearing species in the wild state, with a small part being explored by harvesting from the wild or subsistence agriculture. This group includes the camu camu (*Myrciaria dubia*), family Myrtaceae. The most distinctive feature of the camu camu fruit attracting attention is its extremely high content of vitamin C (1000 to 3000 mg/100 g in the pulp). The harvest of camu camu fruit in naturally occurring stands is difficult - at harvest time the shrubs are usually partially flooded. Recently, growing trials on non-flooded soils are promising. In the harvest regions, the fruit is consumed in the form of juice, ice-cream, fruit purees and jams, not being consumed in its natural state due to its high acidity. More recently there has been an increasing demand for camu camu pulp in the larger commercial centres of Brazil for the production of healthy beverages. Compounds like ascorbic acid and anthocyanins, present in the camu camu, are known to act as dietary antioxidants. They are reactive oxygen species scavengers, which can play an important role in the prevention of illnesses like cancer or cardiovascular diseases or to slow down the ageing process. For a better understanding of the health benefits from the camu camu fruit, we have determined the antioxidant capacity of the fruit with the Total Oxidant Scavenging Capacity assay. This assay is based upon the ethylene yielding reaction of α -keto- γ -methiolbutyric acid with three different reactive oxygen species (ROS). The time course of ethylene production was monitored during one hour by repeated headspace GC. In comparison with other fruit, camu camu presents outstanding antioxidant features. Not only the extremely high content of ascorbic acid but also compounds likes anthocyanins or flavonolglycosides seem to contribute to the overall antioxidant capacity of camu camu fruit pulp. The camu camu is, until now, a hardly known fruit that presents a high potential to be explored as a functional food not only in the Amazon region but also in the big markets of Europe and the USA.

Keywords: Antioxidant capacity, camu-camu, *Myrciaria dubia*, TOSC assay, Vitamin C